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Patent claims

- 5 1. An internal high pressure forming installation
with a forming tool which contains an upper die
and a lower die which, with their cavity, form the
forming chamber for a peripherally closed hollow
10 profile to be inserted therein, at least one axial
punch by means of which the inserted hollow
profile can be sealed at one end and which has an
axial through channel via which an internal high
pressure can be produced with a pressurized fluid
15 in the hollow profile in order to expand it, and
with a rapid filling device which has a filling
attachment with a filling bore, the diameter of
which is larger than that of the through channel
of the axial punch and via which the hollow
20 profile can be filled with pressurized fluid in a
position of the axial punch in which it is drawn
back from the respective hollow profile end, the
filling attachment having a through bore through
which the axial punch protrudes during the forming
25 process of the hollow profile, characterized in
that the filling attachment (12, 27) is connected
to a transporting device which brings the filling
attachment (12, 27) into a contact position on the
forming tool (2) in order to fill it and, after
30 the filling, guides it into a position remote from
the forming tool.
2. The internal high pressure forming installation as
claimed in claim 1, characterized in that the
axial punch (8) forms the transporting device, the
35 filling attachment (12, 27) being arranged on the
axial punch (8) in a manner such that it can be
displaced relative to the latter in the axial
direction.

3. The internal high pressure forming installation as claimed in either of claims 1 and 2, characterized in that the filling attachment (12, 27) is designed in the manner of a bell.
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4. The internal high pressure forming installation as claimed in either of claims 2 and 3, characterized in that the axial punch (12) has a stop (21) in the vicinity of the forming tool, and in that the installation (1) contains a device by means of which the rigid filling attachment (12) is held on the forming tool (2) during the filling.
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5. The internal high pressure forming installation as claimed in claim 4, characterized in that the device is a compression spring (22) by means of which the rigid filling attachment (12) is supported on the outside on a radially outwardly situated step (24) of the axial punch (8).
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6. The internal high pressure forming installation as claimed in one of claims 2 to 5, characterized in that an encircling seal (18) is arranged on the end side (17) of the filling attachment (12), which end side faces the forming tool (2).
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7. The internal high pressure forming installation as claimed in either of claims 2 and 3, characterized in that the filling attachment is a flexible bellows (27) which is fastened to the axial punch (8) in the region of the through bore (14).
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8. The internal high pressure forming installation as claimed in one of claims 1 to 7, characterized in that the filling attachment (12, 27) has a vent bore (19).
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9. The internal high pressure forming installation as claimed in one of claims 1 to 8, characterized in that the filling attachment (12, 27) has an outlet bore (20).